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Strategic Analysis Report
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Hype Cycle for Application Integration and Platform Middleware, 2003

Core application integration and platform middleware technologies are well-established, yet vendor innovation continues. New concepts like vocabulary-based transformation and business activity monitoring are only now emerging. Expect the hype to grow.

Management Summary

Application integration and platform middleware cover a large number of systems software and concepts. Many of the core technologies are well-established: business process analysis (BPA), integration brokers and adapters, to name a few. Some of the more recent concepts that are still to gain mainstream "mind share" are rather obscure at this point: packaged integrating processes (PIPs), vocabulary-based transformation and enterprise service buses (ESBs). Although software markets are struggling, application integration and platform middleware markets have remained positive, albeit with lower growth rates than during integration's heyday. As one of the most challenging issues facing CIOs, the application integration infrastructure landscape will remain a balance of inflated expectations and reliable productivity. Some breakthrough innovations will never cross the Trough of Disillusionment, but many will — further enriching the mature core infrastructure for a modern integrated and agile enterprise.

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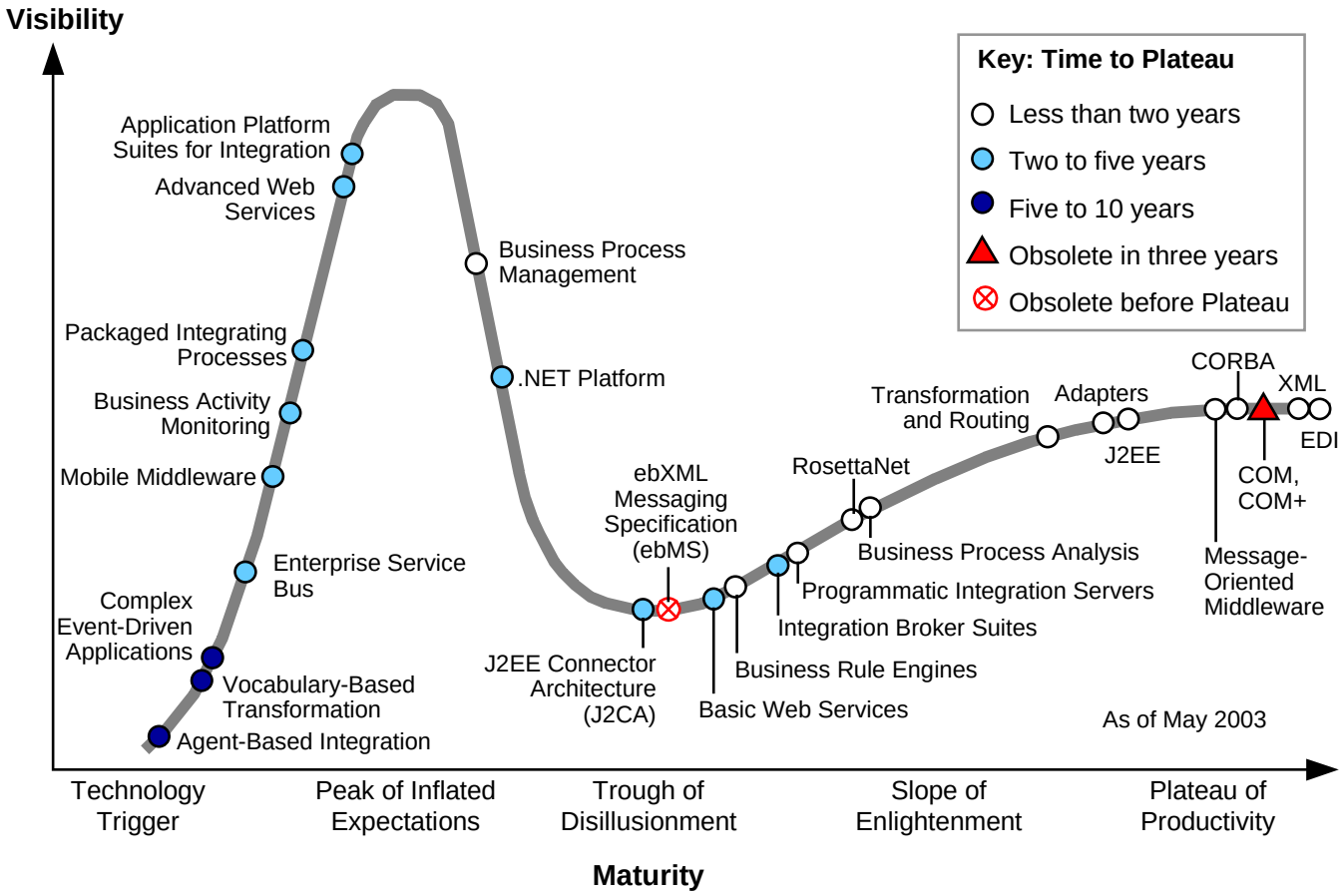
1.0 The Hype Cycle



Acronym Key	
COM	Component Object Model
CORBA	Common Object Request Broker Architecture
ebXML	Electronic Business XML
EDI	electronic data interchange
J2EE	Java 2 Platform, Enterprise Edition
XML	Extensible Markup Language

Source: Gartner Research (May 2003)

Figure 1. Hype Cycle for Application Integration and Platform Middleware, 2003

2.0 On the Rise

2.1 Agent-Based Integration

Definition: Agent-based integration leverages innovative distributed techology such as software agents and Java Spaces to support peer-to-peer, autonomic application integration.

Time to Plateau/Adoption Speed: Five to 10 years.

Justification for Hype Cycle Position/Adoption Speed: Only small, startup vendors with academic backgrounds have released products in this space. Technology is still very immature, with a very small number of users.

Business Impact Areas: Aims to reduce application integration complexity and cost while increasing reliability for large-scale integration scenarios.

Selected Vendors: GigaSpaces, IntaMission and Tryllian.

Analysis by Massimo Pezzini

2.2 Vocabulary-Based Transformation

Definition: An abstract or conceptual vocabulary (or taxonomy or ontology) is the definition of a set of terms, both elementary and composite, their structural relationships and their constraints in a metadata-independent manner. Sophisticated forms of transformation leverage pre-built vocabularies to enable semantic adjustments including, but not limited to, synonyms.

Time to Plateau/Adoption Speed: Five to 10 years.

Justification for Hype Cycle Position/Adoption Speed: Commercial products offer vocabulary-based transformation, but it will be used in fewer than 1 percent of integration scenarios in 2003. Available vocabularies are limited in scope and applicable only to a few specialized business problems, but substantial development activities are under way.

Business Impact Areas: Vocabulary-based semantic transformation may eventually reduce the development time needed to implement the majority of application integration scenarios. Business processes that require integration of systems with disparate data models will be implemented at lower cost and without as much custom coding.

Selected Vendors: Contivo, enLeague Systems, ItemField, Unicorn Solutions, Vitria Technology and Zonar.

Analysis by Roy Schulte

2.3 Complex Event-Driven Applications

Definition: A business event is a meaningful change in the state of a business or application system. Event-driven applications are those in which processing is triggered by the arrival of push-based information coming from outside of the component that performs the function. Complex event processing involves sophisticated aggregation of multiple events.

Time to Plateau/Adoption Speed: Five to 10 years.

Justification for Hype Cycle Position/Adoption Speed: Applications began widely exploiting events directly with the advent of Visual Basic programs in the 1990s. However, complex event processing requires more-powerful tools for noninvasive instrumentation of established applications along with a maturation of event management engines.

Business Impact Areas: Event-driven architecture will be highly visible because of business activity monitoring (BAM) applications, but it will also reshape the internal integration and design patterns of many transactional composite applications, multistep process applications and data consistency applications.

Selected Vendors: Agea, Apama, Axeda Systems, Categoric, HNC Software, iSpheres, KnowNow, Metatomix, Performix Technologies, Tibco Software, Savvion, Synthean and Systar.

Analysis by Roy Schulte

2.4 Enterprise Service Bus

Definition: Enterprise service bus (ESB) is a streamlined, distributed integration middleware infrastructure that combines XML and Web services support, basic transformation and content-based routing. It either includes message-oriented middleware (MOM) or wraps other MOM transport mechanisms. It serves as a lightweight integration broker suite.

Time to Plateau/Adoption Speed: Two to five years.

Justification for Hype Cycle Position/Adoption Speed: ESB vendors are generally small, innovative startup companies, although some larger vendors from adjacent market segments are moving into this space. The first products only shipped in 2002 and only leading-edge projects are adopting these in 2003.

Business Impact Areas: ESBs are a lower-cost, lighter-weight alternative to full-blown integration suites for the enterprise nervous system. Telecommunications firms and financial service providers are among the first adopters, but visionaries in any industry will gain benefits from these enterprise nervous system backbones.

Selected Vendors: Fiorano Software (Tifosi), Iona Technologies (XMLBus), Kenamea (Web Messaging Platform), PolarLake (Jintegrator), Software AG (EntireX Communicator and XML Mediator), Sonic Software (SonicXQ) and SpiritSoft (Spiritwave).

Analysis by Roy Schulte

2.5 Mobile Middleware

Definition: Mobile middleware supports enabling integration between mobile and wireless applications and enterprise systems. It also supports implementation of mobile-enabled new applications.

Time to Plateau/Adoption Speed: Two to five years.

Justification for Hype Cycle Position/Adoption Speed: Numerous vendors offer point mobile middleware products, and some have reached reasonable technical maturity. Lack of standards, high cost and unclear return on investment prevent mainstream use.

Business Impact Areas: Provides access to business-critical information and applications from anywhere through wireless networks and mobile devices such as personal digital assistants and cellular phones.

Selected Vendors: Air2Web, Fenestrae, iAnywhere Solutions, IBM, Microsoft and Oracle.

Analysis by Massimo Pezzini

2.6 Business Activity Monitoring

Definition: "Business activity monitoring" (BAM) is a Gartner term that defines the concept of providing real-time access to critical business performance indicators to improve the speed and effectiveness of business operations.

Time to Plateau/Adoption Speed: Two to five years.

Justification for Hype Cycle Position/Adoption Speed: BAM is in its early marketing stages and is in supply-side buildup. Vendors are only now coming to market with "version 1" products.

Business Impact Areas: Provides real-time analysis of critical business events and will allow shortened response times.

Selected Vendors: Excedo, Synthean, Tibco and Vitria.

Analysis by David McCoy

2.7 Packaged Integrating Processes

Definition: Packaged integrating processes (PIPs) create a systematic application integration and then license it for enterprises to use in their own integration projects. Packaged processes are similar to packaged applications, but they run on integration middleware. Despite the need for some (limited) customization, packaged processes can be used as-is to integrate commonly used business processes between commonly used application systems.

Time to Plateau/Adoption Speed: Two to five years.

Justification for Hype Cycle Position/Adoption Speed: PIPs have been around for a long time (CrossWorlds in 2000), so they are definitely beyond the trigger. However, most implementations are still immature, and most enterprises are not even aware yet of what PIPs are, so this is still a nascent technology.

Business Impact Areas: Packaged processes reduce implementation time for integrations associated with commonly occurring business processes, such as e-procurement, and business documents, such as purchase orders. Process and document definitions are pre-configured along with the appropriate adapters and other integration technology necessary to link two or more application systems.

Selected Vendors: iWay Software, Mercator Software, SAP, Siebel Systems and Vitria.

Analysis by Benoit Lheureux

3.0 At the Peak

3.1 Advanced Web Services

Definition: These are services in SOA or arbitrary software modules that use core Web services standards, such as Simple Object Access Protocol (SOAP), as well as advanced Web services standards, such as Business Process Execution Language for Web Services (BPEL) to support advanced SOA quality of service.

Time to Plateau/Adoption Speed: Two to five years.

Justification for Hype Cycle Position/Adoption Speed: Advanced Web services delivery depends on the availability of implemented standards. Most of the relevant standards have not yet been certified and their implementations are not yet fully delivered by vendors. The projected impact of this new set of standards is not based on real production experience.

Business Impact Areas: Web services architecture, enhanced with enterprise-class quality of service, will enable businesses to complete more advanced and business-critical transactions over standards-based networks.

Selected Vendors: BEA Systems, Cape Clear, Fujitsu, IBM, Iona, Microsoft, Oracle and Sun Microsystems.

Analysis by Yefim Natis

3.2 Application Platform Suites for Integration

Definition: Application platform suites (APSs) for integration are an integrated technology offering combining integration brokers with full-featured application server and portal products — optionally extended with integrative development framework, metadata repository, systems management and other shared add-on features. APSs are intended to shift application integration projects to broader-scoped business software projects.

Time to Plateau/Adoption Speed: Two to five years.

Justification for Hype Cycle Position/Adoption Speed: Integration specialist vendors are beginning to adjust their product offerings to match the growing threat from the giant software infrastructure generalists (such as IBM, BEA, Oracle and Sun). Users already know of APSs, although few have production experience. In the next two years, most integration technology will be acquired as a specialist APS or a component of a generalist APS.

Business Impact Areas: Users will have to choose between one-stop shopping and best of breed. APSs will increase vendor lock-in but will lower the cost of development of composite applications (the majority of software development projects in the next five years); generalists will take market share from specialists and will cause market consolidation by attracting mainstream enterprises to the suites.

Selected Vendors: BEA, Fujitsu, IBM, Oracle, PeopleSoft, SAP, SeeBeyond, Sun and Sybase.

Analysis by Yefim Natis

4.0 Sliding Into the Trough

4.1 Business Process Management

Definition: Business process management (BPM) is an industry-coined term that defines a set of related technologies that help optimize business processes and flows, especially across traditional organizational and systems boundaries.

Time to Plateau/Adoption Speed: Less than two years.

Justification for Hype Cycle Position/Adoption Speed: BPM is an overcrowded market that is likely to see consolidation in late 2003 and 2004, but it will be propelled by strong benefits and multiple buying centers.

Business Impact Areas: Significant short-term to midterm cost savings benefits and a base for business flexibilty in the middle to long run, especially when combined with business process automation, business rule engines and BAM.

Selected Vendors: FileNet, MetaStorm, Pegasystems and Staffware.

Analysis by Jim Sinur

4.2 .NET Platform

Definition: .NET is the most recent topology of applications prescribed by Microsoft and implemented in most Microsoft development tools and runtime middleware. .NET comprises the .NET Framework, a runtime multilanguage application platform, and COM+, a transaction integrity extension to the Framework. .NET offers multiple programming models: XML Web services, WebForms, WinForms and others.

Time to Plateau/Adoption Speed: Two to five years.

Justification for Hype Cycle Position/Adoption Speed: Now that the initial shock of .NET's new programming and design paradigms has passed, a more realistic understanding of its strengths and weaknesses is taking place. The power of the new architecture, despite its increased complexity, is attracting a growing number of mainstream users. This .NET positioning is based on its runtime platform middleware and not on the application development aspect.

Business Impact Areas: Application programming model and runtime platform for applications, supported exclusively by Microsoft, embedded into the runtime Windows operating-system platforms.

Selected Vendors: Microsoft.

Analysis by Yefim Natis

4.3 J2EE Connector Architecture

Definition: J2EE Connector Architecture (J2CA) has been a mandatory part of the Java 2 Platform, Enterprise Edition (J2EE) standard since J2EE 1.2. This specification prescribes the architecture and application programming interfaces for adapters between the standard Java environment and non-J2EE applications.

Time to Plateau/Adoption Speed: Two to five years.

Justification for Hype Cycle Position/Adoption Speed: Production implementations of J2CA are available from all leading J2EE vendors; some J2CA resource managers are available from adapters and application server vendors. However, most implementations are extended beyond the limited standard. Adoption of J2CA is relatively slow and will remain so due to complexity and competition from Web services standards.

Business Impact Areas: Standardizes some of the application integration technology (development of adapters) for Java-based integration projects.

Selected Vendors: BEA Systems, Borland, Fujitsu, IBM, Iona, Oracle, SAP, SeeBeyond, Sun Microsystems and Sybase.

Analysis by Yefim Natis

4.4 ebXML Messaging Specification

Definition: Electronic Business XML (ebXML) Messaging Specification (ebMS) is one of the collection of five specifications for electronic business developed via a United Nations Center for Facilitation of Procedures and Practices, Administration, Commerce and Transport program. Messaging Specification has the most traction.

Time to Plateau/Adoption Speed: Obsolete before Plateau.

Justification for Hype Cycle Position/Adoption Speed: Although IBM provides an ebMS implementation, Microsoft and IBM do not support ebXML, and Sun Microsystems recast ebMS as Web Services Reliability.

Business Impact Areas: ebMS has the potential to provide near-term secure business transactions for those enterprises unwilling to wait for WS-Reliability or use Applicability Statement 2.

Analysis by Jess Thompson

5.0 Climbing the Slope

5.1 Basic Web Services

Definition: These are services in SOA or arbitrary software modules that use core Web services standards for service definition and invocation (for example, SOAP, WSDL).

Time to Plateau/Adoption Speed: Two to five years.

Justification for Hype Cycle Position/Adoption Speed: Basic Web services standards are well-defined and implemented by all leading software infrastructure vendors. The reality of Web services standards has proved to be less powerful and more difficult than promised by the media. However, tool vendors are beginning to deliver advanced productivity tools for Web services design and the Web services best practices are emerging to lead the technology out of the Trough of Disillusionment. Positioning is based on basic Web services' use in application integration and middleware.

Business Impact Areas: Enables seamless interconnectivity between clients and servers over the public Internet; often serves as the basis for service-oriented architecture for business applications.

Selected Vendors: BEA Systems, Borland, Cape Clear, Fujitsu, IBM, Iona, Microsoft, Oracle, SAP, SeeBeyond, Sun Microsystems, Sybase, Tibco and webMethods.

Analysis by Yefim Natis

5.2 Business Rule Engines

Definition: "Business rule engine" (BRE) is a term that defines the rule-execution space where the rules are sufficiently accessible to less technical developers to support near-real-time business rule changes.

Time to Plateau/Adoption Speed: Less than two years.

Justification for Hype Cycle Position/Adoption Speed: Rule technology was in the Trough of Disillusionment for more than 10 years because it significantly overpromised and underdelivered, except for specialty applications. It is now re-emerging because it offers real benefits for a broader range of applications.

Business Impact Areas: Allows for policy and rule agility in reactive modes and pre-defined scenarios in planning modes at the business and technical infrastructure levels in an organization.

Selected Vendors: Computer Associates International, Fair Isaac, Ilog and Pegasystems.

Analysis by Jim Sinur

5.3 Integration Broker Suites

Definition: Integration broker suites are integration middleware that supplies transformation and intelligent routing, such as content-based routing. From 1997 to 2002, broker products became broad suites through the addition of features such as BPM, adapters and adapter development toolkits, Web services, and better metadata and management facilities.

Time to Plateau/Adoption Speed: Two to five years.

Justification for Hype Cycle Position/Adoption Speed: Integration brokers have been on the market since 1996. From 2000 to 2002, virtually all application server vendors and packaged-application vendors got

into the fray by adding brokers and BPM services to their product sets. More than 75 percent of large enterprises use a broker somewhere, but only 10 percent of integration projects in 2002 used a broker.

Business Impact Areas: Integration broker suites reduce the time to implement systematic application development projects that have demanding integration requirements. They improve business processes by making practical a broader and deeper range of integration across heterogeneous application systems.

Selected Vendors: IBM (WebSphere MQ Integrator), Mercator (Inside Integrator), Microsoft (BizTalk), SeeBeyond (e*Gate), Sybase (e-Biz Integrator), Tibco (ActiveEnterprise), Vitria (BusinessWare) and webMethods (Integration Platform).

Analysis by Roy Schulte

5.4 Programmatic Integration Servers

Definition: These are low-cost products for integrating new J2EE or .NET applications with legacy applications, which they do by supporting Web services (from a technology standpoint) and SOA (from an architectural standpoint).

Time to Plateau/Adoption Speed: Less than two years.

Justification for Hype Cycle Position/Adoption Speed: Programmatic integration servers are pretty mature and proven products. Low cost, ease of use and rapid return on investment are propelling them into the mainstream, mainly for opportunistic service-oriented legacy integration.

Business Impact Areas: These products enable enterprises to rapidly wrap legacy applications into business services to be reused to implement new Web-based applications, thus significantly reducing development cost.

Selected Vendors: ClientSoft, CommerceQuest, IBM, Jacada, Microfocus, Seagull Software Systems, SEEC and WRQ.

Analysis by Massimo Pezzini

5.5 RosettaNet

Definition: This is a set of specifications that defines an infrastructure and messaging scheme to facilitate Internet-based business-to-business (B2B) automated business process application integration. The key components of the RosettaNet specifications include RosettaNet Implementation Framework, a B2B messaging infrastructure; the Partner Interface Processes (PIPs), for B2B messages; and dictionaries of PIPs and industry codes, such as the Data Universal Numbering System.

Time to Plateau/Adoption Speed: Less than two years.

Justification for Hype Cycle Position/Adoption Speed: RosettaNet is one of the earliest XML-based B2B specifications and has substantial traction with high-tech industries. It is in production use by a number of large organizations, including Arrow and Cisco. RosettaNet is emerging into the mainstream, including in Asia, where electronic components are manufactured.

Business Impact Areas: Pre-defines commonly occurring business documents, processes and integration infrastructure for B2B application integration, particularly in electronic component/high-tech supply chains.

Selected Vendors: Tibco, Viacore, Vitria and webMethods.

Analysis by Benoit Lheureux

5.6 Business Process Analysis

Definition: "Business process analysis" (BPA) is a term that defines the business-modeling space where business professionals and IT designers can collaborate on business process designs and architecture frameworks.

Time to Plateau/Adoption Speed: Less than two years.

Justification for Hype Cycle Position/Adoption Speed: BPA is a more-focused business process re-engineering discipline aimed at creating incremental change rather than wholesale and radical change.

Business Impact Areas: BPA is mostly used for planning purposes to guide optimal designs and targets. As systems flows show greater reach and variability, BPA will grow.

Selected Vendors: Casewise, IDS Scheer, Popkin Software and Proforma.

Analysis by Jim Sinur

6.0 Entering the Plateau

6.1 Transformation and Routing

Definition: See Section 5.3 on integration broker suites. An integration broker does syntactic and semantic transformation and intelligent routing (that is, content-based routing).

Time to Plateau/Adoption Speed: Less than two years.

Justification for Hype Cycle Position/Adoption Speed: Transformation and routing are ubiquitous integration services, now found in many application servers, packaged applications and ESBs, not just in integration suites. Standards such as Extensible Stylesheet Language Transformations and Xquery are further popularizing these features.

Business Impact Areas: Specially designed integration middleware tools can execute transformation and intelligent routing with a much lower development effort than it would take to implement the same functions in a third-generation language, such as Visual Basic or Java.

Selected Vendors: Selected vendors: BEA Systems, IBM, Iona, Mercator, Microsoft, SeeBeyond, Sun Microsystems, Sybase, Tibco, Vitria and webMethods. Application vendors: J.D. Edwards, Oracle, PeopleSoft and SAP.

Analysis by Roy Schulte

6.2 Adapters

Definition: Adapters are a combination of design tools and runtime software that act as "glue" to link applications to the enterprise nervous system (ENS) — that is, the integration middleware infrastructure that transports, transforms and routes data between systems. Adapters perform a variety of tasks, including recognizing events, collecting and transforming data, and exchanging data with the ENS. They also handle exceptions and can often dynamically accommodate new revisions of back-end applications.

Time to Plateau/Adoption Speed: Less than two years.

Justification for Hype Cycle Position/Adoption Speed: Adapters are included in nearly every integration broker product and are increasingly used by themselves. The holdup for widespread adoption in moderate

adopters of new technology and late adopters is that integration technology is only now becoming mainstream. Adapters pretty much track integration brokers in terms of adoption.

Business Impact Areas: Adapters eliminate the need for custom coding to bind integrating infrastructure with various source or target systems and protocols. This can reduce the development and deployment time and improve the performance of integration projects, particularly when these projects must interface with more than a couple of sources or targets.

Selected Vendors: Attachmate, Attunity, Data Junction, Insevo, iWay and Neon Systems.

Analysis by Benoit Lheureux

6.3 J2EE

Definition: Java 2 Platform, Enterprise Edition (J2EE) is a Sun Microsystems-sponsored architecture specification that prescribes application architecture for Java-based business applications. J2EE is implemented by multiple vendors as a J2EE application server combined with J2EE MOM. Programming models of J2EE include Java Server Pages, servlets, Session EJB and entity Enterprise JavaBeans.

Time to Plateau/Adoption Speed: Less than two years.

Justification for Hype Cycle Position/Adoption Speed: J2EE is well-established as a platform for mainstream enterprise business applications.

Business Impact Areas: J2EE is an application programming model and runtime platform specification for applications that is supported by a large number of enterprise software infrastructure vendors and delivered on most modern operating-system platforms.

Selected Vendors: BEA Systems, Borland, Fujitsu, IBM, Iona, JBoss, Oracle, SAP, SeeBeyond, Sun Microsystems and Sybase.

Analysis by Yefim Natis

6.4 Message-Oriented Middleware

Definition: Message-oriented middleware (MOM) products provide connectionless, program-to-program communication services. Interactions may be asynchronous (one-way, store-and-forward) or synchronous (one-way or two-way request/reply exchanges). MOM products provide guaranteed once-and-only-once delivery, broad platform support, many-to-many communication, and property- or subject-based publish-and-subscribe.

Time to Plateau/Adoption Speed: Less than two years.

Justification for Hype Cycle Position/Adoption Speed: MOM has been commercially available since the late 1980s and is now used in a large minority of commercial application systems. Use continues to grow slowly because of the acceptance of the Java Message Service (JMS) standard, but use is still limited to particular cirucmstances.

Business Impact Areas: MOM is used for both intra-application and interapplication (that is, integration) purposes. Its use for intra-application purposes in distributed applications is stable, but its use for cross-application integration purposes continues to expand.

Selected Vendors: Fiorano, IBM, IIT, Microsoft, Oracle, Softwired, Sonic, SpiritSoft and Tibco.

Analysis by Roy Schulte

6.5 CORBA

Definition: Common Object Request Broker Architecture (CORBA) is a set of standards specified by the Object Management Group and defining a distributed computing architecture based on the notion of objects invoking each other through formal protocols and interfaces.

Time to Plateau/Adoption Speed: Less than two years.

Justification for Hype Cycle Position/Adoption Speed: CORBA-based products are mature and proven in several large-scale, service-oriented integration projects; however, their complexity and lack of tools inhibit further market penetration.

Business Impact Areas: CORBA products enable enterprises to implement very large, business-critical distributed applications by incorporating legacy systems. Their high cost and complexity narrow their use to the most demanding, systematic projects.

Selected Vendors: Borland and Iona.

Analysis by Massimo Pezzini

6.6 COM, COM+

Definition: This is a previous-generation architecture of Microsoft applications implemented in all Microsoft products and tools. Component Object Model (COM)/Distributed Component Object Model (DCOM) is the Microsoft object request broker architecture. COM+ is the Microsoft transactional application server architecture. COM/COM+ comprises runtime components bundled with the Windows operating system and with Microsoft Web Server.

Time to Plateau/Adoption Speed: Obsolete in three years.

Justification for Hype Cycle Position/Adoption Speed: This is a proven platform for thousands of mainstream business applications.

Business Impact Areas: Previous-generation application programming model and runtime platform for applications. Supported exclusively by Microsoft for Windows and now superseded by .NET.

Selected Vendors: Microsoft.

Analysis by Yefim Natis

6.7 XML

Definition: Extensible Markup Language (XML), approved by the World Wide Web Consortium (W3C) in 1998, is a language to identify document elements and attributes in a text stream for application processing in multiple domains. Because it is plain text, people can understand the purpose of the data through the use of descriptive labels (see "The XML Family of Standards: Four Years Later," TU-14-3810). It forms the foundation of other W3C standards such as XPointer, Xlink and Extensible Stylesheet Language; Web services standards such as SOAP, Universal Description, Discovery and Integration (UDDI) and Web Services Description Language (WSDL); and XML-defined specifications such as Extensible Business Reporting Language and Open Financial Exchange.

Time to Plateau/Adoption Speed: Less than two years.

Justification for Hype Cycle Position/Adoption Speed: Many applications at many levels of the IT stack have used XML for a number of years.

Business Impact Areas: Improve interoperability, enable cross-industry interchange.

Analysis by Jess Thompson

6.8 EDI

Definition: Electronic data interchange (EDI) is the computer-to-computer interchange of business data in a standard format. The two most widely used EDI standards are the UN Electronic Data Interchange for Administration, Commerce and Transport (UN/EDIFACT) standard and the Accredited Standards Committee (ASC) X12 standard.

Time to Plateau/Adoption Speed: Less than two years.

Justification for Hype Cycle Position/Adoption Speed: EDI remains a popular means of B2B integration because of the maturity of established standards and the wide adoption of EDI-associated technologies.

Business Impact Areas: New standards, such as EDI for the Internet (EDI INT), and techologies, such as transaction delivery network software, have reduced the reliance on value-added networks and reduced the costs associated with implementing EDI, thus lowering the barriers for adoption by large and small-to-midsize businesses.

Selected Vendors: Global eXchange Services, Inovis, Sterling Commerce, Tibco and webMethods.

Analysis by Frank Kenney

7.0 Conclusion

A core of application integration and platform middleware technologies has reached the Plateau of Productivity — it is safe for mission-critical systems of mainstream enterprises. Most enterprises should not consider in-house development of integration brokers, messaging middleware or application servers. Yet, rapid innovation continues, carrying a degree of inevitable hype and disillusionment. Enterprises must recognize that most integration and platform middleware products are combining the proven and the experimental. Those users who desire to avoid risk must carefully select a subset of features in their infrastructure products.

Appendix A: Hype Cycle Definitions

Technology Trigger: A breakthrough, public demonstration, product launch or other event generates significant press and industry interest.

Peak of Inflated Expectations: During this phase of overenthusiasm and unrealistic projections, a flurry of well-publicized activity by technology leaders results in some successes, but more failures, as the technology is pushed to its limits. The only enterprises making money are conference organizers and magazine publishers.

Trough of Disillusionment: Because the technology does not live up to its overinflated expectations, it rapidly becomes unfashionable. Media interest wanes, except for a few cautionary tales.

Slope of Enlightenment: Focused experimentation and solid hard work by an increasingly diverse range of organizations lead to a true understanding of the technology's applicability, risks and benefits. Commercial, off-the-shelf methodologies and tools ease the development process.

Plateau of Productivity: The real-world benefits of the technology are demonstrated and accepted. Tools and methodologies are increasingly stable as they enter their second and third generations. The final height of the plateau varies according to whether the technology is broadly applicable or benefits only a niche market. Approximately 30 percent of the technology's target audience has or is adopting the technology as it enters the Plateau.

Time to Plateau/Adoption Speed: The time required for the technology to reach the Plateau of Productivity.

Appendix B: Acronym Key

ASC	Accredited Standards Committee
B2B	business-to-business
BAM	business activity monitoring
BPM	business process management
BRE	business rule engine
COM	Component Object Model
CORBA	Common Object Request Broker Architecture
DCOM	Distributed Component Object Model
ebMS	ebXML Messaging Specification
ebXML	Electronic Business XML
EDI	electronic data interchange
EDI INT	EDI for the Internet
ESB	enterprise service bus
J2CA	J2EE Connector Architecture
J2EE	Java 2 Platform, Enterprise Edition
JMS	Java Message Service
MOM	message-oriented middleware
PIP	packaged integrating process
PIP	Partner Interface Process
SOA	service-oriented architecture
SOAP	Simple Object Access Protocol
UDDI	Universal Description, Discovery and Integration
UN/EDIFACT	UN Electronic Data Interchange for Administration, Commerce and Transport
W3C	World Wide Web Consortium
WSDL	Web Services Description Language
XML	Extensible Markup Language